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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/569,940	11/09/2006	Yoshihisa Saimoto	1003510-000162	3339

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BUCHANAN, INGERSOLL & ROONEY PC  
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EXAMINER
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ORLANDO, MICHAEL N

ART UNIT	PAPER NUMBER
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1791

NOTIFICATION DATE	DELIVERY MODE
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08/11/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ADIPFDD@bipc.com  
offserv@bipc.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/569,940	<b>Applicant(s)</b> SAIMOTO ET AL.	
	<b>Examiner</b> MICHAEL N. ORLANDO	<b>Art Unit</b> 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-11, 13, 14 and 16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11, 13, 14 and 16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>04/26/2010</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

The arguments and amendments submitted 06/29/2010 have been fully considered, but the claims remain unpatentable over the prior art as set forth below.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-11, 13, 14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saimoto et al. (US 2002/0106868) in view of Grupen-Shemansky (US 5,268,065).

Regarding claim 1, Saimoto discloses a protective sheet for wafer processing which is adhered to the circuit side ([0009]) whereby the sheet comprises a two layer base film comprising a polyester (such as polyethylene naphthalate) and an ethylene vinyl acetate copolymer along with an adhesive surface applied thereon for adhesion to the wafer ([0024]-[0027]). Saimoto also discloses that the polyester film can be the outer film ([0028]). The examiner notes that polyethylene naphthalate (PEN) is very impermeable and would satisfy the present claims. The claims do not set forth either the temperature of the gas, temperature of the film and/or the gas that is actually being referred to. In light of the high impermeability of PEN it would likely satisfy the claimed impermeability even at atmospheric conditions with less permeable gases such as carbon dioxide or nitrogen gas, but it would definitely satisfy the present claims with heavier/larger gases at lower temperatures (such as those approaching absolute zero) as heavier/larger gases are more impermeable and lower temperatures decrease permeability. Where the claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes, the PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of the claimed product. Whether the rejection is based on

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"inherency" under 35 USC § 102, on prima facie obviousness" under 35 USC § 103, jointly or alternatively, the burden of proof is the same, and its fairness is evidenced by the PTO's inability to manufacture products or to obtain and compare prior art products." In re Best, 562 F2d 1252, 1255, 195 USPQ 430, 433-4 (CCPA 1977).

Saimoto discloses substantially the whole invention except the presence of the back metal film layer.

Gruppen-Shemansky (hereinafter Gruppen), drawn also to a method of protecting the front side of a semiconductor wafer while the back side is thinned, discloses that it was known to sputter a metal film to the backside of the wafer in order to thin its surface (claims 1, and 9). It would have been obvious to have sputtered a metal film on the backside of the wafer of Saimoto to produce a thinned wafer in view of the teachings of Gruppen as such was a known process in the wafer thinning art.

Regarding claim 2, Gruppen discloses metal films (column 5, lines 62-65).

Regarding claims 3-11, 13, 14 and 15, the merits have been substantially addressed above. Saimoto also discloses that the adhesive layer should have the claimed elastic modulus ([0012]). As to the further specified gas impermeability the same arguments presented above are still applicable. As to the water absorption the examiner notes that many of the film forming materials of Saimoto would be expected to have these properties ([0025]). Where the claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes, the PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of the claimed product. Whether the rejection is

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based on "inherency" under 35 USC § 102, on prima facie obviousness" under 35 USC § 103, jointly or alternatively, the burden of proof is the same, and its fairness is evidenced by the PTO's inability to manufacture products or to obtain and compare prior art products." In re Best, 562 F2d 1252, 1255, 195 USPQ 430, 433-4 (CCPA 1977).

5. Claims 3, 7, 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saimoto and Grupen-Shemansky as applied above and further in view of Bennett et al. (US 5,851,664).

Regarding claims 3, 7, 9 and 11, the merits have been substantially addressed above. Further in regard to the water resistance it is noted that Bennett, drawn also to the field of semiconductor wafer processing, discloses that it was known to choose moisture resistant materials as the protective substrate for back side wafer grinding (column 2, lines 58-64). Given the teachings of Bennett it would have been obvious to have selected a form of polyester film with good moisture resistance as such was known to be desired in the art whereby an applicant would have been motivated to do so to produce a moisture resistant protective film.

### ***Response to Arguments***

6. Applicant's arguments with respect to claims 1-11, 13, 14 and 16 have been considered but are moot in view of the new ground(s) of rejection. The amended claims are treated with new art so the arguments are moot.

***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL N. ORLANDO whose telephone number is (571) 270-5038. The examiner can normally be reached on Monday-Thursday, 7:30am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Philip C. Tucker can be reached on (571) 272-1095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MO

/James Sells/  
Primary Examiner, Art Unit 1791